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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,995	08/23/2001	Richard E. Smalley	11321-P014US	1538

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EXAMINER

LE, HOA T

ART UNIT PAPER NUMBER

1773

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

*Office Action Summary*

Application No.

09/935,995

Applicant(s)

SMALLEY ET AL

Examiner

H. T. Le

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 36-59 and 61-65 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 36-59 and 61-65 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>07/2005</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### *Claim Rejections - 35 USC § 112*

2. Claim 62 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what "portion" in the phrases "the first portion of the polymer" and "the second portion of the polymer" denotes.

#### *Response to Arguments*

3. Applicant's arguments, filed June 2005, with respect to the validity of the prior art (the Star article) applied in the last office action, have been fully considered and are persuasive. The rejection based on the Star~~z~~ reference has been withdrawn.

4. However, ~~1~~ new grounds of rejection are made as follows:

#### *Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 36-43, 45-59, 63 and 65 are rejected under 35 U.S.C. 102(b) as being anticipated by the Davey patent (EP 0 949 199).<sup>1</sup>

Claim 36: See the Davey patent, page 3, paragraph 0012 and claims 11 and 13.

Claims 37-38: See Davey, page 3, paragraph 0012 and page 6, par. 0052.

Claims 39-40: See Davey, page 3, paragraph 0016 and claim 14.

Claim 41: met by inherency.

Claims 42-43: See claim 12.

Claim 45: See Davey, page 4, paragraph 0026; page 3, paragraphs 0021 to 0023 (solvent); page 4, par. 0024 (sonication mixing).

Claim 46: See page 4, par. 0031.

Claim 47: See Davey, page 3, paragraph 0018.

Claims 48-49 : Page 4, par. 0026.

Claim 50 : page 3, par. 0017 (line 40), par. 0018 and par. 0021.

Claim 51 : page 4, par. 0040.

Claims 52-54: These claims are product-by-process claims; therefore, only product limitations are given patentable consideration. The burden is on applicants to prove that the difference in process results in a different product.

Claims 55-58: Page 4, par. 0036-0039.

Claim 59 : See Davey, page 3, paragraph 0012 and page 6, par. 0052.

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<sup>1</sup> Copy of this reference has been provided by Applicants.

Claim 63: Page 7, line 23 where blending the coated carbon nanotube with a polymer matrix is taught.

Claim 65: See the Davey patent, page 3, paragraph 0012; and claims 11 and 13.

7. Claims 36, 44 and 65 are rejected under 35 U.S.C. 102(a) as being anticipated by the Grimes article ("The 500 MHz to 5.50 GHz complex permittivity spectra of single-wall carbon nanotube-loaded polymer composites").<sup>2</sup>

The Grimes article teach the coating of polymer, particularly poly-ethyl-methacrylate, on a carbon single-walled nanotube.

***Claim Rejections - 35 USC § 103***

8. Claims 44 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Davey patent (EP 0 949 199) as applied to claims 36-43, 45-59, 63 and 65 above, and further in view of the discussion below.

Claim 44: The Davey patent teaches conjugated, non-conjugated or coiling polymers that can be used as the coating polymer for the carbon nanotube (page 3, par. 0013 and 0016). Though the patent does not explicitly name the polymers, the polymers as recited in instant claim 44 are encompassed within the broad teaching of Davey. Therefore, one having ordinary skill in the art would have found it obvious to select polymers as claimed because these polymers are capable of coiling or forming strands or ropes as suggested by the Davey.

Claim 64: At page 7, paragraph 0060, the Davey patent teaches incorporation of the polymer-coated carbon nanotube in resins, polymer matrix and plastics to form various

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<sup>2</sup> Copy of this reference has been provided by Applicants.

products. Therefore, based on this broad teaching of Davey, one having ordinary skill in the art would have found it obvious to select polymers as claimed because they are suitable as resins and plastics that form products suggested by Davey at page 7, paragraph 0060.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. T. Le whose telephone number is 571-272-1511. The examiner can normally be reached on 10:00 a.m. to 6:30 p.m., Mondays to Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



H. T. Le  
Primary Examiner  
Art Unit 1773

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